



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,280	09/18/2003	Arihiro Takeda	1117.68338	5624
7590	12/29/2004		EXAMINER	
Patrick G. Burns, Esq. GREER, BURNS & CRAIN, LTD. Suite 2500 300 South Wacker Drive Chicago, IL 60606				DUONG, THOI V
			ART UNIT	PAPER NUMBER
			2871	
DATE MAILED: 12/29/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/665,280	TAKEDA ET AL.	
	<b>Examiner</b> Thoi V Duong	<b>Art Unit</b> 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 18 October 2004.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 22-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 22-26 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. 10/047,216.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

1. This office action is in response to the Response A filed October 18, 2004. Claims 1-21 and 27-33 were cancelled and claims 22-26 are currently pending in this application.

### ***Response to Arguments***

2. Applicant's arguments with respect to claims 22-26 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koma (USPN 6,229,589 B1) in view of Song et al. (USPN 6,657,695 B1).

Re claim 22, as shown in Figs. 3 and 4, Koma discloses a liquid crystal display device comprising:

a first substrate 10 having thereon a pixel electrode 19 and an active element (col. 4, lines 30-59);

a second substrate 30 having thereon an opposed electrode 31; and a liquid crystal layer 40 interposed between said first and second substrates with said electrodes facing each other,

wherein an orientation control window 50 (a second orientation control element) extending in a parallel direction relative to an extending direction of a vertical edge of said pixel electrode is provided on the second substrate 30, and

at least a part of liquid crystal molecules said liquid crystal layer of said second orientation control element are oriented in a vertical direction relative to said substrate when voltage is being applied between said pixel and opposed electrodes (Fig. 4 and col. 5, lines 11-15).

Re claim 23, said pixel electrode 19 does not exist on at least a part of a place on said first substrate 10 opposed to said second orientation control element since the top of the Y-shape of the orientation control window 50 is formed outside the pixel electrode 19 as shown in Fig. 3.

Re claim 26, Koma discloses that a dielectric anisotropy of said liquid crystal molecules of said liquid crystal layer is negative (col. 2, lines 47-20). a first orientation control element, upper and lower portions of Y-shape of 32a, 32b and 32c, extending in a nonparallel direction relative to an extending direction a vertical edge of said pixel electrode is provided and

Koma et al. discloses a liquid crystal display device that is basically the same as that recited in claim 22 except for the first orientation control element extending in a nonparallel direction relative to an extending direction of the vertical edge of the pixel electrode.

As shown in Figs. 5-7, re claims 24 and 25, Song discloses protrusions 15 and slits 3 (first orientation control element) formed in a pixel electrode 16 in an oblique

direction relative to a vertical edge of the pixel electrode to compensate the optical characteristics of the liquid crystal molecules at the two side regions of either of the protrusion pattern 15 and the slit 3 (col. 6, lines 30-38).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the liquid crystal display device of Koma with the teaching of Song et al. by forming the first orientation control element (a protrusion or a slit) extending in a nonparallel direction relative to an extending direction of the vertical edge of the pixel electrode so as to compensate the optical characteristics of the liquid crystal molecules, and hence to obtain a wide viewing angle (col. 6, lines 36-38).

### ***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (571) 272-2292. The examiner can normally be reached on Monday-Friday from 8:30 am to 4:30 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim, can be reached at (571) 272-2293.

Thoi Duong   
12/18/2004



TARIFUR R. CHOWDHURY  
PRIMARY EXAMINER